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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/505,458	04/05/2005	Kenichi Fujino	258096US0PCT	1781
22850	7590	06/30/2006	EXAMINER	
OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314			CHOI, LING SIU	
			ART UNIT	PAPER NUMBER

1713

DATE MAILED: 06/30/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/505,458	<b>Applicant(s)</b> FUJINO ET AL.	
	<b>Examiner</b> Ling-Siu Choi	<b>Art Unit</b> 1713	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>9/2/04, 6/10/05</u> . | 6) <input type="checkbox"/> Other: ____.  |

### **DETAILED ACTION**

1. This Application is a 371 of PCT/JP03/02308, filed February 28, 2003. Claims 1-8 are now pending, wherein claims 1-2 are drawn to an aqueous dispersion; claims 3-4 are drawn to a method to produce aqueous dispersion; claims 5-8 are drawn to a primer, a paint, an ink, and an adhesive, respectively.

### ***Claim Objections***

2. Claims 1-8 are objected to because of the following informalities:

(a) claim 1, line 1, "characterized by dispersedly containing" is suggested to be changed to --containing--;

(b) claim 1, lines 5-6, "weight and weight average molecular weight of 10,000 to 3000,000, and stabilizer" is suggested to be changed to --weight, and weight average molecular weight of 10,000 to 3000,000; and stabilizer--;

(c) claim 2, lines 1-2, "The aqueous dispersion of Claim 1, wherein surfactant and basic substance are contained additionally." is suggested to be changed to --The aqueous dispersion of Claim 1 further containing surfactant and basic substance.--;

(d) Claim 3, line 1, "dispersion characterized by" is suggested to be changed to --dispersion by--;

(e) claim 3, lines 2-6, "dispersing carboxyl group-containing chlorinated propylenic random copolymer with weight average molecular weight of 10,000 to

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300,000, chlorinated upto chlorine content of 5 to 40 % by weight, after or before graft copolymerizing a,b-unsturated carboxylic acid or its anhydride onto propylenic random copolymer produced by using metallocene compound as a polymerization catalyst in amounts of 0.1 to 20 % by weight, into water” is suggested to be changed to --  
dispersing **a propylenic random copolymer** with weight average molecular weight of 10,000 to 300,000 **and being** chlorinated upto chlorine content of 5 to 40 % by **weight** **after** or before graft copolymerizing  $\alpha,\beta$ -unsturated carboxylic acid or its anhydride onto propylenic random copolymer produced by using metallocene compound as a polymerization catalyst in amounts of 0.1 to 20 % by weight, into water--

Appropriate correction is required.

***Claim Rejections - 35 USC § 112***

**3. The following is a quotation of the second paragraph of 35 U.S.C. 112:**

**The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.**

4. Claims 1-8 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1, line 3, the recitation “5 to 40 % by weight” causes indefiniteness because there is no base for the weight % to be cited.

Claim 1, lines 4-5, the recitation “0.1 to 20% by weight” causes indefiniteness

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because there is no base for the weight % to be cited.

Claim 2, lines 1-2, the recitation "basic substance" cause indefiniteness because it is not defined.

Claim 3, line 4, the recitation "5 to 40% by weight" causes indefiniteness because there is no base for the weight % to be cited.

Claim 3, lines 7-8, the recitation "0.1 to 20% by weight" causes indefiniteness because there is no base for the weight % to be cited.

### ***Claim Analysis***

5. Summary of claim 1:

An aqueous dispersion containing	
A	a carboxyl group-containing chlorinated propylenic random copolymer with
	chlorine content of 5-40% by weight
	grafting level of $\alpha,\beta$ -unsaturated carboxylic acid or its anhydride of 0.1-20% by weight
	weight average molecular weight of 10,000-3000,000
B	a stabilizer

### ***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to

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be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 1-2 and 5-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Urata et al. (US 6,586,525 B1) in view of Kimura et al. (US 5,539,043).

Urata et al. disclose a binder resin comprising carboxyl group-containing chlorinated polyolefin and a stabilizer, wherein the polyolefin can be a propylene- $\alpha$ -olefin copolymer having weight average molecular weight of 10,000 to 150,000; the carboxyl group-containing chlorinated polyolefin has a chlorine content from 10 to 30 wt%; the unsaturated carboxylic acid monomer used to introduce carboxyl group to the polyolefin is maleic acid, maleic anhydride, fumaric acid in an amount of 1 to 10 wt% to polyolefin; and the stabilizer is an epoxy compound (abstract; col. 2, lines 53-67; col. 3, lines 1-4, 20-31, and 39-49; col. 5, line 67; col. 6 line 1). Urata et al. further disclose that the carboxyl group-containing chlorinated polyolefin can be used in coating /spray painting, primer, ink, and adhesive (col. 5, lines 26-35). Urata et al. further disclose that the binder resin further comprises a surfactant (col. 6, lines 22-27). It is noted that Urata et al. use an organic solvent for the binder resin composition and are silent on the use of water as a solvent (col. 5, lines 1-25).

The difference between the present claims and the disclosure of Urata et al. is the requirement of the binder resin in a form of aqueous dispersion.

Kimura et al. disclose an aqueous dispersion comprising a carboxyl group-containing chlorinated polypropylene and a nonionic surfactant, wherein the carboxyl group-containing chlorinated polypropylene has a number average molecular weight of

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5,000 to 40,000; a chlorine content of 15 to 35 wt%; and acid value of 10 to 60 (abstract; col. 2, lines 61-63; claim 1). Kimura et al. further disclose that the use of an aromatic organic solvent for the chlorinated polypropylene causes problems in aspect of safety, sanitation, and environmental pollution and the aqueous dispersion can be obtained with excellent adhesive property (col. 1, lines 11-23; col. 2, lines 8-12). In view of such benefit, it would have been obvious to one of ordinary skill in the art at the time the invention was made to tailor the binder resin composition to aqueous dispersion and thereby obtain the present invention.

8. Claims 1-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ueda et al. (EP 1 065 245 A1) in view of Kimura et al. (US 5,539,043).

Ueda et al. disclose a binder resin composition comprising carboxyl group-containing chlorinated polyolefin resin and an stabilizer, wherein the carboxyl group-containing chlorinated polyolefin has **chlorine content** of 0.1 to 40 wt%, grafting level of  **$\alpha$ ,  $\beta$ -unsaturated carboxylic acid and/or its acid anhydride** of 0.5 to 10 wt%, and **weight average molecular weight** of 30,000 to 220,000 and the stabilizer is an epoxy compound (abstract; [0030]-[0031]; [0041]-[0046]). Ueda et al. further disclose that the polyolefin is produced using metallocene compound and that "[i]t is possible to use syndiotactic polypropylene (SPP), propylene- $\alpha$ -olefin copolymer produced by using **metallocene catalyst** as a polymerization catalyst.....random copolymerizability is more excellent resulting in narrower composition distribution and wider range of copolymerization comonomer..." ([0011]-[0013]). Thus, the polyolefin can be the

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propylene- $\alpha$ -olefin copolymer having **random copolymerizability**. It is noted that Ueda et al. use an organic solvent for the binder resin composition and are silent on the use of water as a solvent ([0029]).

The difference between the present claims and the disclosure of Ueda et al. is the requirement of the binder resin in a form of aqueous dispersion.

Kimura et al. disclose an aqueous dispersion comprising a carboxyl group-containing chlorinated polypropylene and a nonionic surfactant, wherein the carboxyl group-containing chlorinated polypropylene has a number average molecular weight of 5,000 to 40,000; a chlorine content of 15 to 35 wt%; and acid value of 10 to 60 (abstract; col. 2, lines 61-63; claim 1). Kimura et al. further disclose that the use of an aromatic organic solvent for the chlorinated polypropylene causes problems in aspect of safety, sanitation, and environmental pollution and the aqueous dispersion can be obtained with excellent adhesive property (col. 1, lines 11-23; col. 2, lines 8-12). In view of such benefit, it would have been obvious to one of ordinary skill in the art at the time the invention was made to tailor the binder resin composition to aqueous dispersion and thereby obtain the present invention.

### ***Conclusion***

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ling-Siu Choi whose telephone number is 571-272-1098.



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If attempt to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wu, can be reach on 571-272-1114.



LING-SUI CHOI  
PRIMARY EXAMINER

June 15, 2006